

## Abstract

5 A system and method for generating a curve, such as a Low Discrepancy Curve,  
on a surface, such as an abstract surface with a Riemannian metric. The system may  
comprise a computer which includes a CPU and a memory medium which is operable to  
store one or more programs executable by the CPU to perform the method. The method  
may: 1) parameterize the surface; 2) select a curve, such as a Low Discrepancy Curve, in  
a parameter space, for example, a simple space such as a unit square; 3) re-parameterize  
10 the surface, for example, re-parameterize the surface such that a ratio of line and area  
elements of the surface based on a Riemannian metric is constant; and 4) map the curve  
onto the surface using the re-parameterization. The method may also generate output  
comprising information regarding the mapped curve, for example, displaying the mapped  
curve on a display device.

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